Project 3: Custom Image Filter

Methods & Data Structures @ Goucher College

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Overview

Create an image processor ("image filter") using Python and the Python Imaging Library.

You may choose to model your filter after Instagram, or choose to take your filter in a new and/or abstract direction.

This project covers concepts of fundamental image processing, image masking, and procedural pixel editing.

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Requirements

1. Your filter should follow these standard image processing steps:

- Open an existing image, such as a photograph
- Alter the image in some way, using built-in filters and/or direct pixel access.
- Save the altered image as a new file.

2. Your filter should be equally applicable to any image. An example of a program that **does not** meet this requirement would be a program that uses pixel access to change the "red eye" of two eyes in a particular photo by replacing those specific red pixels with another color. This would be a poor general-use filter because it would not work well with other images.

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Examples

Example "Instagram" filter:

- Decreases contrast 30%
- Increases brightness 10%
- Slightly tints the contents teal, using pixel access to do colorization.
- Uses image masking to blur the edges
- Puts a light tan border around the image, by drawing shapes with ImageDraw

Example "abstract" filter:

- Uses pixel access to take a 20x20 area of the image and repeat it over and over in a grid, creating a glitchy or kaleidoscopic effect.

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A final note

As you complete this project, notice how your role as an artist shifts. In this project, you will not be creating the content of the original image. Instead, you will be writing a set of rules that will alter existing content in some way. In a way, you are writing a medium through which content will be shown, and the medium you write will affect that content. It is your job to compose that medium so that it produces interesting images. Is there a way to compose the medium so that any image that is passed through it is an acceptable artwork, in your eyes? At what point does the resulting image become *your* artwork, as opposed the original photographer's?